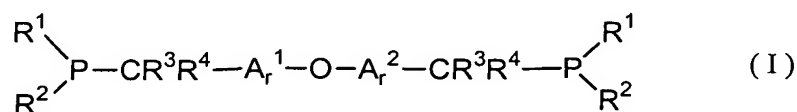


Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims

Claim 1. (Currently Amended) A bisphosphine ~~having a crosslinking group and~~ represented by ~~the general~~ formula (I)



wherein Ar¹ and Ar² each represents an arylene group which ~~may be~~ is optionally substituted; R¹ and R² each represents an alkyl group which ~~may be~~ is optionally substituted or an aryl group which ~~may be~~ is optionally substituted, or R¹ and R² ~~may optionally~~ combinedly form a ring together with the phosphorus atom bonded thereto; R³ and R⁴ each represents hydrogen atom or an alkyl group; and the carbon atoms each having R³ and R⁴ are bonded in positions ortho to the oxygen atom bonded to Ar¹ and Ar².

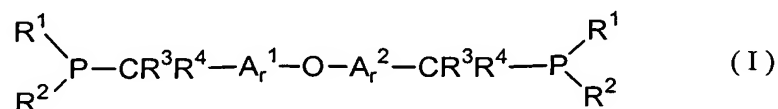
Claim 2. (Currently Amended) The bisphosphine according to Claim 1, wherein in the ~~general~~ formula (I) the arylene group represented by each of Ar¹ and Ar² is phenylene, the aryl group that ~~may be~~ is represented by each of R¹ and R² is phenyl, and R³ and R⁴ each represents a hydrogen atom.

Claim 3. (Currently Amended) The bisphosphine according to Claim 1, ~~being~~ which ~~is 2,2'-(bis(diphenylphosphinomethyl)diphenyl ether, 2,2'-(bis(diphenylphosphinomethyl)-6-methoxy-diphenyl ether 2,2'-bis(diphenylphosphinomethyl)diphenyl ether, 2,2'-~~

bis(diphenylphosphinomethyl)-6-methoxy-diphenyl ether, or 2,2'-

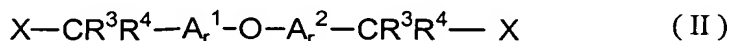
bis(diphenylphosphinomethyl)-4-t-butyl-diphenyl ether.

Claim 4. (Currently Amended) A process for producing bisphosphines ~~having a crosslinking group and~~ represented by the ~~general~~ formula (I)

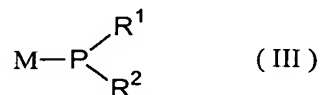


wherein Ar^1 and Ar^2 each represents an arylene group which ~~may be~~ is optionally substituted; R^1 and R^2 each represents an alkyl group which ~~may be~~ is optionally substituted or an aryl group which may be substituted, or R^1 and R^2 may combinedly form a ring together with the phosphorus atom bonded thereto; R^3 and R^4 each represents hydrogen atom or an alkyl group; and the carbon atoms each having R^3 and R^4 are bonded in positions ortho to the oxygen atom bonded to Ar^1 and Ar^2 , which comprises:

subjecting a compound represented by the ~~general~~ formula (II)



wherein Ar^1 , Ar^2 , R^3 and R^4 are as defined above, and X represents an arylsulfonyloxy group, alkylsulfonyloxy group or a halogen atom[[:]] to phosphorylation with an alkali metal phosphide represented by the ~~general~~ formula (III)



wherein R^1 and R^2 are as defined above, M represents a lithium atom, a sodium atom or a potassium atom.

Claim 5. (Currently Amended) The process according to Claim 4, wherein in the ~~general~~ formula (I) the arylene group represented by each of Ar^1 and Ar^2 is phenylene, the

aryl group that ~~may be~~ is optionally represented by each of R¹ and R² is phenyl, and R³ and R⁴ each represents a hydrogen atom.

Claim 6. (Original) The process according to Claim 4, wherein said phosphorization is carried out in the presence of an ether-based solvent.

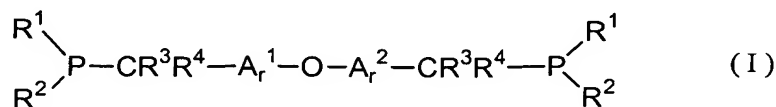
Claim 7. (Original) The process according to Claim 6, wherein said ether-based solvent is selected from the group consisting of 1,4-dioxane, dibutyl ether, 2-ethoxyethyl ether, diethyleneglycol dimethyl ether, tetrahydrofuran and diethyl ether.

Claim 8. (Original) The process according to Claim 6, wherein said solvent comprises a mixed solvent comprising tetrahydrofuran and dibutyl ether.

Claim 9. (Currently Amended) The process according to Claim 4, wherein said alkali metal phosphide is used in an amount ranging from 2 to 4 moles per mole of said compound represented by ~~the general~~ formula (II).

Claim 10. (Currently Amended) The process according to Claim 9, wherein said alkali metal phosphide is used in an amount ranging from 2 to 2.2 moles per mole of said compound represented by ~~the general~~ formula (II).

Claim 11. (Currently Amended) A Group VIII metal complex, comprising:
a bisphosphine ~~having a crosslinking group and~~ represented by ~~the general~~ formula (I)



wherein Ar¹ and Ar² each represents an arylene group which ~~may be~~ is optionally substituted;
R¹ and R² each represents an alkyl group which ~~may be~~ is optionally substituted or an aryl
group which may be substituted, or R¹ and R² ~~may~~ combinedly form a ring together with the
phosphorus atom bonded thereto; R³ and R⁴ each represents hydrogen atom or an alkyl group;
and the carbon atoms each having R³ and R⁴ are bonded in positions ortho to the oxygen
atom bonded to Ar¹ and Ar², and a Group VIII metal compound.

Claim 12. (Currently Amended) The Group VIII metal complex according to Claim
11, wherein in the formula the arylene group represented by each of Ar¹ and Ar² is
phenylene, the aryl group that ~~may be~~ is represented by each of R¹ and R² is phenyl, and R³
and R⁴ each represents hydrogen atom.

Claim 13. (Original) The Group VIII metal complex according to Claim 11, wherein
said Group VIII metal compound is a rhodium compound, cobalt compound, ruthenium
compound or iron compound having catalytic activity for hydroformylation.

Claim 14. (Original) The Group VIII metal complex according to Claim 13, wherein
said Group VIII metal compound is a rhodium compound selected from the group consisting
of RhO, RhO₂, Rh₂O, Rh₂O₃, rhodium nitrate, rhodium sulfate, rhodium chloride, rhodium
iodide, rhodium acetate, Rh(acac)(CO)₂, RhCl(CO)(PPh₃)₂, RhCl(CO)(AsPh₃)₂, RhCl(PPh₃)₃,
RhBr(CO)(PPh₃)₂, Rh₄(CO)₁₂ and Rh₆(CO)₁₆.

Claim 15. (Original) The Group VIII metal complex according to Claim 14, wherein
said Group VIII metal compound is Rh(acac)(CO)₂.

Claim 16. (Currently Amended) The Group VIII metal complex according to Claim 11, wherein the amount of said bisphosphine used is in a the range of 2 to 10000 moles in terms of phosphorus atom per mole of said Group VIII metal compound in terms of Group VIII metal atom.

Claim 17. (Currently Amended) The Group VIII metal complex according to Claim 16, wherein the amount of said bisphosphine used is in a the range of 2 to 1000 moles in terms of phosphorus atom per mole of said Group VIII metal compound in terms of Group VIII metal atom.

Claim 18. (Currently Amended) A process for producing aldehydes, which comprises[[],]:

~~on hydroformylation of~~ hydroformylating ethylenically unsaturated compounds with carbon monoxide and hydrogen in the presence of a catalyst of a Group VIII metal complex as defined in Claim 11 to produce the corresponding aldehydes[[],]. ~~using as said catalyst the Group VIII metal complex according to Claim 11.~~

Claim 19. (Currently Amended) The process according to Claim 18, wherein a mixed gas comprising carbon monoxide and hydrogen having a H₂/CO molar ratio ~~as feed gas composition of~~ 0.1 to 10 is ~~used~~ fed into the reaction.

Claim 20. (Currently Amended) The process according to Claim 19, wherein a said mixed gas comprising carbon monoxide and hydrogen has a H₂/CO molar ratio of 0.5 to 2.

Claim 21. (Currently Amended) The process according to Claim 18, wherein the reaction is conducted under a pressure is in a the range of 0.1 to 10 MPa.

Claim 22. (Currently Amended) The process according to Claim 21, wherein the reaction pressure is in a the range of 0.2 to 5 MPa.

Claim 23. (Currently Amended) The process according to Claim 18, wherein the reaction temperature is in a the range of 40 to 150° C.

Claim 24. (Currently Amended) The process according to Claim 23, wherein the reaction temperature is in a the range of 60 to 130° C.

Claim 25. (Currently Amended) The process according to Claim 18, wherein the amount of said Group VIII metal complex is in a the range of 0.0001 to 1000 milligram-atom in terms of the Group VIII metal atom per liter of the reaction liquid.

Claim 26. (Currently Amended) The process according to Claim 25, wherein the amount of said Group VIII metal complex is in a the range of 0.005 to 10 milligram-atom in terms of the Group VIII metal atom per liter of the reaction liquid.